

PATENT
PD-Y01-067

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: GLENN A. BARBER ET AL.
Serial No.: 10/008,260
Filed: October 26, 2001
For: METHOD AND APPARATUS FOR IDENTIFYING
THE SELECTION AND EXCLUSION OF ELEMENTS
OF COMPLEX SETS

: Date: July 8, 2005
: Group Art Unit: 2173
: Examiner: Namitha Pillai

STATEMENT ESTABLISHING UNINTENTIONAL DELAY

Commissioner of Patents and Trademarks
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

The following is a statement regarding the cause for the delay in filing the Appeal Brief within the two month filing period.

The Notice of Appeal was mailed to the PTO on January 6, 2006. The undersigned attorney was in the process of preparing the Brief for timely filing within the two month filing period. However, undersigned attorney had a heart attack on or about February 12, 2006 and was hospitalized for a period of time. It also appears that a docket item relating to filing the Brief was not entered into the docketing database. The issue was only recently discovered when one of the inventors contacted the undersigned attorney regarding the status of the appeal.

In view of the above, revival of the present application and entry of the enclosed appeal brief are respectfully requested.

Respectfully submitted,

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PATENT
Y01-067

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS

In re Application of: Glenn A. Barber et al.

: Date: December 5, 2006

Serial No. 10/008,260

: Group Art Unit: 2173

Filed: October 26, 2001

: Examiner: Namitha Pillai

For: Method and Apparatus for Identifying the
Selection and Exclusion of Elements of Complex

APPEAL BRIEF TRANSMITTAL LETTER

The Commissioner of Patents and Trademarks
Washington, D.C. 20231

Sir:

Enclosed is an Appeal Brief, in triplicate, for the above-identified patent application.

- Applicant petitions for an extension of time for month(s). If an additional extension of time is required, please consider this a petition therefore. Fee:
- An extension for month(s) has already been secured; the fee paid therefore will be deducted from the total fee due for the total months of extension now requested. Extension fee due with this request:
- Applicant believes that no extension of time is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition for extension of time.
- The Appeal Brief Fee was paid in a prior appeal in which there was no decision on the merits by the Board of Appeals.
- The Appeal Brief Fee is enclosed herewith. Fee = \$250.00
- The total fee due is \$250.00 .
- Address correspondence to the undersigned at 2095 Hwy. 211 NW, #2-F, Braselton, GA 30517.

This letter is submitted in triplicate.

Respectfully submitted,



Kenneth W. Float
Reg. No. 29,233

Encls.

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PATENT
PD-Y01-067



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS**

Appeal No. _____

In re Application of: GLENN A. BARBER ET AL.

Serial No.: 10/008,260

Filed: October 26, 2001

For: METHOD AND APPARATUS FOR IDENTIFYING THE
SELECTION AND EXCLUSION OF ELEMENTS OF COMPLEX SETS

APPELLANTS' BRIEF ON APPEAL

Kenneth W. Float

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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF APPEALS**

In re Application of: GLENN A. BARBER ET AL. : Date: December 5, 2006
Serial No.: 10/008,260 :
Filed: October 26, 2001 : Group Art Unit: 2173
For: METHOD AND APPARATUS FOR IDENTIFYING :
THE SELECTION AND EXCLUSION OF ELEMENTS : Examiner: Namitha Pillai
OF COMPLEX SETS :
:

APPELLANT'S BRIEF ON APPEAL

Commissioner of Patents and Trademarks
P. O. Box 1450
Alexandria, VA 22313-1450

Sir:

This is Appellant's brief on appeal from the decision of the Examiner in the Office Action dated May 17, 2005 finally rejecting Claims 1-20. This brief is submitted in accordance with the provisions of 37 C.F.R. § 41.37.

REAL PARTY IN INTEREST

The real parties in interest is Gray Matter, LLC.

RELATED APPEALS AND INTERFERENCES

There are no other appeals or interferences known to appellants, appellant's legal representative, or the assignee which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

STATUS OF CLAIMS

Claims 1-20 were finally rejected in the Office Action dated May 17, 2005. Appellant appeals from this final rejection.

STATUS OF AMENDMENTS

No claim amendments were made in response to the final Office Action dated May 17, 2005. The Claims as they currently stand are presented in the Appendix.

SUMMARY OF CLAIMED SUBJECT MATTER

The subject matter defined in independent Claim 1 is discussed on page 2 lines 15 to page 3, line 18, for example, and relates to apparatus for selecting or excluding and identifying

the manner of selecting and excluding complex sets of objects contained in a set of such objects, and for illustrating same in a tree-like graphical form. The apparatus comprises:

an input data memory for storing a mapping from objects in a set of objects from which a complex set is to be selected to a set of nodes organized in a tree-like structure that represents an ordering of the objects (page 2, lines 19-23, page 5, lines 29-35, Fig. 2);

an input data memory for storing an identification of each node independent of its order, and for identifying each node in relation to other nodes in the hierarchy by storing references, if any, to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented, and for storing a status state of the selection or exclusion of each node to represent the status state of selection or exclusion of the node (page 2, lines 23-30, page 9, lines 6-23 to page 11, line 17, Figs. 6A-6E, 7);

a processing mechanism for changing the status state of nodes in a tree-like graphical presentation of the nodes, storing the results in data memory, and changing the representation of the states based on an input event from the user (page 7, line 2 to page 10, line 30, Figs. 4A, 4B, 5A, 5B, 6A-6E); and

an output data device that updates the status state of selection of each node effected by the input event by operation of the process and stores the change in data memory (page 3, lines 15-18, page 7, lines 33-35, page 8, lines 27-30, Figs. 4A, 4B, 5A, 5B, 6A-6G).

The subject matter defined in independent Claim 13 is a method claim corresponding to Claim 1, and is also discussed on page 2 lines 15 to page 3, line 18, for example, and relates to a method for selecting or excluding and identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects, and for illustrating same in a tree-like graphical form,. The method comprises:

storing a mapping from objects in a set of objects from which a complex set is to be selected to a set of nodes organized in a tree-like structure that represents an ordering of the objects (page 2, lines 19-23, page 5, lines 29-35, Fig. 2);

storing an identification of each node independent of its position in the order, identifying each node in relation to other nodes in the hierarchy by storing references, if any, to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented, and storing a status state of the selection or exclusion of each node (page 2, lines 23-30, page 9, lines 6-23 to page 11, line 17, Figs. 6A-6E, 7);

changing the status state of nodes in a presentation of the nodes, storing the results in data memory, and changing the representation of the states based on an input event from the user (page 7, line 2 to page 10, line 30, Figs. 4A, 4B, 5A, 5B, 6A-6E); and

updating the status state of selection of each node effected by the input event by operation of the process and storing the change (page 3, lines 15-18, page 7, lines 33-35, page 8, lines 27-30, Figs. 4A, 4B, 5A, 5B, 6A-6G).

GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Ground of rejection: Claims 1-20 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by US Patent No. 6,407,761 issued to Ching et al.

ARGUMENT

The ground of rejection is that Claims 1-20 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by US Patent No. 6,407,761 issued to Ching et al. It is respectfully submitted that Claims 1-20 are not anticipated by, nor are they obvious in view of the Ching et al. patent, and that the Examiner's rejection of Claims 1-20 is in error.

It is respectfully submitted that the present invention clearly differs from the cited art, and in particular the teachings of the Ching et al. patent. In an effort to help members of the Board better understand the present invention and what is taught by the Ching et al. patent, please consider the following discussion.

The present invention provides for methods and apparatus that select or exclude and identify the manner of selecting and excluding complex sets of objects contained in a set of such objects. A input data memory stores a mapping from objects in a set of objects from which a complex set is to be selected to a set of nodes organized in a tree-like structure that represents a hierarchical ordering of such objects. The input data memory stores an identification of each node independent of its position in the hierarchy, and identifies each node in relation to other nodes in the hierarchy. This identification is achieved by storing references to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the represented set. The input data memory also stores a status state of the selection or exclusion of each node and a related system of graphical icons to represent the status state of selection or exclusion of the node. The processing system and software are operative to change the status state of nodes in a tree-like graphical presentation of the nodes, store the results in the data memory, and change the graphical icon representation of such states based on an input event from the user.

The software evaluates a current state of selection or exclusion of a node that is subject to an event, and, based on such state, retains or changes the state in a designated sequence based upon receipt of the input event, and updates a display of the graphical icon representing the state resulting from such processing that corresponds to the node. The software recursively evaluates the current state of selection or exclusion of each child node, if any, of the node that is subject to the event, and, based on the state of selection, retains or changes the state in a designated sequence based upon the result of the processing of the node subject to the input

event and updates the display of the graphical icon representing the state resulting from such processing that corresponds to the child node.

The software recursively evaluates the current state of selection or exclusion of each parent node, if any, of the node subject to the event, and determines whether all child nodes of the parent constitute a complete partition of the object represented by the parent node, and based on the results, retains or changes the status state of the icon in a designated sequence and updating the display of the graphical icon representing the state resulting from such processing that corresponds to the parent node. The output data device updates the status state of selection of each node effected by the input event by operation of the process and stores the change in data memory, which changes the icon graphically representing the status of selection or exclusion of each node so affected.

The Ching et al. patent in the Field of the Invention section states that it "relates to the field of object-oriented business process development and specifically discloses a system for visually customizing interfaces for business objects to achieve interoperability between disparate computer systems." The Summary of the Invention section of the Ching et al. patent states that the disclosed system and method "provides a hardware environment enabling a developer to customize the interface to the business object. A smart code generator or a runtime environment is required to support this invention in order to generate the resulting code of the customized methods which comprise the interface. During development of an application program which needs to access the business objects, the user customizes the interfaces of the business objects such that the application program has the necessary and proper access to the business objects. A graphical user interface is provided which displays all of the business objects available to the system in a menu-driven format. The user selects the business object whose interface needs to be customized. Upon this selection, a comprehensive list of methods which are available to the business object is displayed. The user then selects the particular method which needs to be used by the application program under development. Upon selection of the method, a comprehensive list of parameters which are available to that business object are then displayed. The user then selects the parameters which are needed for the application program to interface with the business object. The end goal is to allow the user to select only the methods and parameters which he intends to use in the application program."

Both the Ching et al. patent and the present specification disclose "Chinese Boxes" – objects that are sets within sets within sets. The Ching et al. patent discloses a process for *opening the boxes* to get what you want. The present application discloses a process for *displaying a symbol* to tell you where your item is in the boxes without the need to open the boxes.

Both the Ching et al. system and the present invention require one to examine the sets ("open the boxes") to find where things are. But there is *no disclosure or suggestion whatsoever* in the Ching et al. patent regarding how to get to an item without "walking the tree"

to it each time. The present application describes how the item fits in the structure *without the need to "walk the tree" each time.*

Enclosed herewith are two illustrations (A and B) which indicate the fundamental difference between the operation of the Ching et al. patent and the present invention.

Both the Ching et al. patent and the present invention start with a standard "tree-view" graphical interface found in many computer applications. The present invention uses a Windows tree-view, Ching et al. use the tree-view in SAP (an accounting program). There is nothing special about representing sets of items in a "hierarchical" tree-view. A standard example is a bill of materials in which a Car (root) contains various parts (engine, chassis, etc.) which contain subparts (engine contains distributor, which contains rotor, etc.). The common idea in this approach is that by selecting one "branch" one gets all the "leaves" on the branch (e.g., if you select an engine, you get the distributor, spark plugs, etc.)

Ching et al. is applying this common hierarchical tree-view approach to object oriented programming. Ching et al. state that Objects contains Methods which contain Parameters which contain Fields (Ching et al. Fig. 8). So, you can use this graphic approach to select the object you want, then open the tree-view to select the method you want to use, and then customized the parameters. The Ching et al. patent uses the tree-view to select or deselect (exclude) *one* node and then generate code for that node. The Ching et al. patent only contemplates at most *four* levels in his tree structure.

The present invention, on the other hand, allows for selection of multiple items. It uses the tree-view to display the status of selection at each node in the hierarchy, not just the selected node. The present invention uses the tree-view to *display* the status of a selection of a complex set of items from a larger set. The Ching et al. patent provides no insight how to do this. Further, the present invention is not restricted to four levels, but can have as many levels as one desires.

Presented below are some basic differences between the present invention and the teachings of the Ching et al. patent:

- Ching et al. use the graphical interface solely to *select* something, not to display the *status* of the selection in relation all other items in the hierarchy;
- Ching et al. deals with object-oriented programming. In object-oriented programming, the data is already stored in a hierarchical form. In the present invention, the date need not be – and usually is not – stored in a hierarchical form. Our invention discloses a method for selecting and excluding complex sets with the separate step of representing the result in a treeview. Ching et al. use the treeview to select objects already hierarchically organized. The present invention uses the treeview as one way to represent graphically an independent selection process.

- In the Ching et al. patent, making the selection becomes a means to generate code for the selected item, whereas in the present invention making a selection is a means to identify the relationship between the selection and other items in the hierarchy.
- The Ching et al. process involves selecting *one* node at a time from the tree, not making and displaying multiple selections with multiple sibling, as the present invention does.
- The Ching et al. patent uses only two attributes for each graphical icon, select and deselect, whereas out invention has eight attributes for each icon.
- For the Ching et al. patent, deselecting a branch deselects all items in the branch, whereas in the present invention, one can have a "selection-below" even if the parent branch is deselected;
- The Ching et al. patent does not have the concept of "All except"; their invention requires selecting and deselecting each item individually, whereas the present invention allows deselecting of subsets;
- The Ching et al. invention does not use recursive tree walking at all to identify the status of parent or sibling nodes because their invention has no interest in displaying the status of a selection in relation to the other selections in the tree.
- The Ching et al. invention requires expanding the entire tree to determine whether a child node is selected, whereas the present invention allows determining the status by examining the selection icon for each node individually.

Fundamentally, it is respectfully submitted that the Examiner has confused the tree-view – a graphical representation – with the selection process. Basically, Ching et al. uses the tree-view as a method of selecting or deselecting an item that is already organized hierarchically. The present invention stores the status of selection in complex nested sets, but these need not be represented in a hierarchical form. In fact, in the present invention, they are stored in a relational database. The present invention then maps the status of selection to a tree view.

It is respectfully submitted that the following paragraphs discuss areas where the Examiner has misunderstood the present invention or has engaged in improper "hindsight reconstruction."

The Examiner has argued that "Ching discloses an apparatus for selecting or excluding and identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects." It is respectfully submitted that Ching et al. does not disclose any such method. The Ching et al. patent only discloses the manner of selecting objects in a tree (see Abstract, 3rd sentence; Col. 2, 50-65; Col. 6, 60-65). There is nothing that changes the status of the selection icon to show deselection at a lower node.

The Examiner has argued that "Ching also discloses a patent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented (Col. 6, ln. 30-50)." It is respectfully submitted that this is pure hindsight reconstruction. Nothing in the Ching et al.

patent teaches how to represent the status of selection at each node in the tree view. Figure 9 of the Ching et al. patent, on which the Examiner relies, is a simplistic method for using selecting and deselecting only at each node which only uses one icon indicating whether selection or deselection has occurred (906.) Nothing in the Ching et al. patent changes the icon to show the status of selection or deselection in relation to other related sets or provides any teaching how to do so. Figure 9 of the Ching et al. patent should be compared with the more robust Fig. 4 in the present application. The present application discloses that as each node is selected, the invention stores the status of the selection independent of its graphical representation in the tree. The present invention then *maps* the status of a selection to a graphical icon in the tree-view that *displays* the result of the selection. Ching et al. use the tree structure for the simple task of selection and deselection. The present invention allows selected or deselected independent of the tree view, creates a status code to represent the impact of the selection on related nodes (which Ching et al. do not) and then maps the status code to a graphical icon that displays the status of selection at the node (which Ching et al. do not). Nothing in Ching et al. do patent provides any teaching regarding how to do this.

The Examiner has argued that "[Ching et al.] Figure 10 discloses a structure with parent, child and sibling nodes and *the checked boxes determine whether there is full or partial partition of the set that is represented.*" It is respectfully submitted that this is simply not true. Nothing in the Ching et al. patent shows full or partial partition. That is the Examiner's reconstruction of what the Examiner thinks the graphical image means. There is no process in Ching et al. patent or the icons he uses to disclose that information. In the present invention, however, the icons do display that information. Our invention embodies the process of identifying the status of full or partial partition. Moreover, unlike Ching et al., the present invention does not need to "open the entire tree" to see the results.

The Examiner has argued that Ching also discloses "storing a status state of selection *or exclusion* of each node to represent the status state of selection *or exclusion* of the node (column 7, ln. 53-63)." It is respectfully submitted that this is incorrect. There is nothing disclosed in the Ching et al. patent regarding displaying the status of anything. Moreover, the Ching et al. patent solely refers to the manner of selecting an item. There is nothing about showing the status of *excluding* anything. What sense would it make to select an object and "exclude" one of its methods? In programming, to "exclude" is the same as "not used," so there is no point in showing an "exclusion." In the present invention, an exclusion is a critical idea. As shown on the attached illustrations, the present invention can show the set "France excluding Societe," for example, whereas Ching et al. cannot.

The Examiner has argued that "Ching also discloses a means for changing the status state of nodes in a tree-like graphical presentation of the nodes." It is respectfully submitted that Ching et al. only discloses whether an item was selected. He does not disclose the status of

selection in relation to other parent or child nodes. It is respectfully submitted that this argument by the Examiner amounts to pure hindsight reconstruction.

Rejection of independent Claim 1

With the above in mind, and with regard to Claim 1, it is respectfully submitted that the specifically claimed structure recited therein is not disclosed or suggested by the Ching et al. patent. It is respectfully submitted that the Examiner has extended the teachings of the Ching et al. patent beyond its express scope using hindsight reconstruction in order to reject the present invention.

With regard to Claim 1, the Examiner has recited the elements therein and has identified portions of the Ching et al. patent that purportedly disclose them. However, in view of the previous discussion, it is respectfully submitted that the specifically claimed structure is not disclosed by the passages cited by the Examiner. It is respectfully submitted that the Examiner has extended the teachings of the Ching et al. patent beyond its express scope using hindsight reconstruction in order to reject the present invention. The Examiner has generally stated that the various claimed aspects of the present invention are disclosed in the cited passages of the Ching et al. patent, but a detailed reading of the passages reveals that the specific detailed aspects of the present invention are clearly not disclosed by the Ching et al. patent.

The Examiner stated that column 2, lines 51-59 of the Ching et al. patent discloses "apparatus for selecting or excluding and identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects" and that Fig. 10 illustrates this in a tree-like graphical form. Column 2, lines 51-59 states "A graphical user interface is provided which displays all of the business objects available to the system in a menu-driven format. The user selects the business object whose interface needs to be customized. Upon this selection, a comprehensive list of methods which are available to the business object is displayed. The user then selects the particular method which needs to be used by the application program under development. Upon selection of the method, a comprehensive list of parameters which are available to that business object are then displayed."

While column 2, lines 51-59 and Fig. 10 appears to describe a graphical user interface wherein items are displayed for selection, there is no disclosure or suggestion in this cited portion of the Ching et al. patent, or any other part thereof, that the graphical user interface provides a mechanism for "identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects." The present specification states on page 6, that "In order to facilitate the process of selection, the present invention provides a process for designating how nodes are selected or excluded by assigning to each node an attribute list. This attribute list designates certain aspects of a node's current state and manner of selection." and "In the preferred implementation of the present invention, a series of graphic icons are associated with each node to designate the node status. FIG. 3 illustrates these status icons. This set of icons is a preferred aspect of the present invention. For convenience of reference in

the discussion that follows, a number is used to designate each status, although other designations may be employed if sufficient to constitute a unique reference."

Thus, while the graphical user interface shown in Fig. 10 of the Ching et al. patent may provide a means for selecting or excluding business objects, it is abundantly clear that the Ching et al. patent does not disclose or suggest anything regarding "identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects" as this is envisioned by the present invention. The Ching et al. graphical user interface provides check boxes along with various text edit boxes 1014, 1018 that allow a user to input text values, and a box 1020 that allows the user to enter a directory 1020 in which a configuration file is stored.

As was mentioned above, it is respectfully submitted that the Ching et al. patent only discloses the manner of selecting objects in a tree (see Abstract, 3rd sentence; Col. 2, 50-65; Col. 6, 60-65). There is nothing that changes the status of the selection icon to show deselection at a lower node.

Thus, it is respectfully submitted that none of the selection boxes contained in the Ching et al. graphical user interface provides for apparatus for "identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects" as is presently claimed.

Claim 1 calls for "an input data memory for storing an identification of each node independent of its order, and for identifying each node in relation to other nodes in the hierarchy by storing references, if any, to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented, and for storing a status state of the selection or exclusion of each node to represent the status state of selection or exclusion of the node."

The examiner cited column 4, lines 40-49 the Ching et al. patent as disclosing the input data memory for storing a mapping from objects in a set of objects from which a complex set is to be selected to a set of nodes organized in a tree-like structure that represents an ordering of the objects. While the Ching et al. patent appears to disclose a graphical user interface apparently having nodes organized in a tree-like structure, it is respectfully submitted that the fully-claimed structure recited in Claim 1 is not present. This is abundantly clear, since the Examiner did not cite any reference for the balance of the above-quoted claim element. It is respectfully submitted that any assertion by the Examiner that the Ching et al. patent discloses this aspect of the present invention is mere conjecture and amounts to hindsight reconstruction.

It is respectfully submitted that the Ching et al. patent does not disclose or suggest anything regarding apparatus for "storing references, if any, to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented, and for storing a status state of the selection or exclusion of each node to represent the status state of selection or exclusion of the node." However, the Examiner cited column 6, lines 30-50 of the Ching et

al. patent as disclosing a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented.

Column 6, lines 30-50 states that "FIG. 9 is a flowchart depicting the overall operation of the invention. First, the hierarchical data structure is extracted 902 from the metadata which can be done by searching through the metadata for the appropriate information. It is then mapped 904 to the graphical icons. The graphical icons are generated by a graphic generator which creates the image on a visual display, through which the graphical icons are provided to the user. Then, the user selects 906 the graphical icon of the particular method which he wants to customize. All the graphical icons representing the parameters which are available to that method icon are then displayed 908. The user then selects 910 the graphical icon of the particular parameter which he wants to customize. Likewise, all the graphical icons representing the fields which are available to that parameter are then displayed 912. The user then selects 914 the graphical icon of the particular field for which a value is to be defined and inputs 916 the value for that field. Depending on whether the customization is complete 918, the user can then begin the process again until all customization of the various methods has been completed, at which point, a configuration is saved 918 to file."

It is respectfully submitted that the Examiner has extended the express teachings of the Ching et al. patent in order to reject the present invention, and has attributed certain aspects of the present invention to the Ching et al. teaching without having any specific recitation of the claimed aspects. For example, a detailed review of the Ching et al. patent reveals that it does not recite the terms "partition" or anything regarding storing an indication of whether the representation constitutes a full or partial partition of the set, or storing a status state of the selection or exclusion of each node to represent the status state of selection or exclusion of the node. It is again respectfully submitted that any assertion by the Examiner that the Ching et al. patent discloses these aspects of the present invention is mere conjecture and amounts to hindsight reconstruction.

An important aspect of the present invention is that it allows a user to see the manner of selection and exclusion of complex sets without expanding the tree. The Ching et al. software requires a user to expand the tree to make selections, but does not disclose the manner of selection or exclusion. The present invention need not be represented in a tree structure, although this is a "preferred embodiment" and is the easiest to understand.

As is recited in Claim 1, the present invention includes "an input memory data for storing identification of each node independent of its order, and for identifying each node in relation to other nodes in the hierarchy by storing references, if any, to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented, and for storing the status state of the selection or exclusion of the node."

There is nothing disclosed or suggested in the Ching et al. patent regarding any of this. Nothing is disclosed or suggested in the Ching et al. patent that identifies the status of selection or exclusion of a node as part of a set -- it only discloses a means of selecting a node. The Ching et al. patent does not disclose at all whether nodes are excluded as opposed to merely not selected. The Ching et al. patent does not disclose any way in which the manner of representing the selection discloses the relation of the selection or exclusion to other nodes in the tree. The Ching et al. patent requires a person to expand the entire tree to view the status of each node. Thus, one cannot tell from viewing a parent node whether child nodes are selected without expanding the tree, whereas our invention discloses selections below a parent node without the necessity of expanding the tree.

It is respectfully submitted that the Ching et al. software uses a graphical tree structure to pick elements of a set that are then included in an object program. The graphical tree interface only shows the status of a selection at a node and requires exposing each node to determine whether it is selected or not. The present invention shows the status of selection and exclusion of nodes in the entire set as represented by the tree. The present invention also identifies at each node its status of selected, excluded, or partially selected or excluded, which the Ching et al. patent does not. The Ching et al. patent focuses on selecting at each node. The present invention is about demonstrating the results of selecting for the entire set.

In view of the above, it is respectfully submitted that the Ching et al. patent does not disclose or suggest the invention recited in Claim 1, and certainly not without the use of hindsight reconstruction. Accordingly, reversal of the Examiner's rejection of Claim 1 is respectfully requested.

Rejection of Claims depending from Claim 1

With specific regard to dependent Claims 9 and 11, it is respectfully submitted that the Ching et al. patent discloses nothing whatsoever regarding recursive evaluation as is performed in accordance with these Claims. The terms "recursive" and "recursive evaluation" are not used in the Ching et al. patent, and this concept is not discussed in the Ching et al. patent. It is respectfully submitted that any assertion to the contrary by the Examiner is mere conjecture and amounts to hindsight reconstruction.

Dependent Claims 2-12 are considered patentable at least based upon the allowability of Claim 1 from which they depend. Therefore, it is respectfully submitted that the invention recited in Claims 2-12 are not disclosed or suggested by the Ching et al. patent. Accordingly, reversal of the Examiner's rejection of Claims 2-12 is respectfully requested.

Rejection of independent Claim 13

Independent method Claim 13 contains method limitations that generally correspond to the apparatus limitations recited in Claim 1. Accordingly, it is respectfully submitted that the Ching et al. patent does not disclose or suggest the invention recited in Claim 13 for the reasons argued with regard to Claim 1. Furthermore, it is respectfully submitted that the Ching et al.

patent does not disclose or suggest the invention recited in Claim 13 without using hindsight reconstruction. Accordingly, reversal of the Examiner's rejection of Claim 13 is respectfully requested.

Rejection of Claims depending from Claim 13

Dependent Claims 19 and 20 contain limitations that generally correspond to the apparatus limitations recited in Claims 9 and 11. It is respectfully submitted that the Ching et al. patent discloses nothing whatsoever regarding recursive evaluation as is performed in accordance with Claims 9 and 11. The terms "recursive" and "recursive evaluation" are not used in the Ching et al. patent. It is respectfully submitted that any assertion to the contrary by the Examiner is mere conjecture and amounts to hindsight reconstruction.

Dependent Claims 14-20 are considered patentable at least based upon the allowability of Claim 13 from which they depend. Therefore, it is respectfully submitted that the invention recited in Claims 14-20 are not disclosed or suggested by the Ching et al. patent. Reversal of the Examiner's rejection of Claims 14-20 is respectfully requested.

In view of the above, it is respectfully submitted that all pending Claims are not anticipated by, nor are they obvious in view of the Ching et al. patent, and certainly not without the use of improper hindsight reconstruction, and are therefore patentable. Therefore, it is respectfully submitted that the rejection of Claims 1-20 was erroneous, and reversal of the Examiner's decision is respectfully requested.

Respectfully submitted,



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CLAIMS APPENDIX

The Claims presented below are currently pending in this application.

1. Apparatus for selecting or excluding and identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects, and for illustrating same in a tree-like graphical form, comprising:

5 an input data memory for storing a mapping from objects in a set of objects from which a complex set is to be selected to a set of nodes organized in a tree-like structure that represents an ordering of the objects;

10 an input data memory for storing an identification of each node independent of its order, and for identifying each node in relation to other nodes in the hierarchy by storing references, if any, to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented, and for storing a status state of the selection or exclusion of each node to represent the status state of selection or exclusion of the node;

15 a processing mechanism for changing the status state of nodes in a tree-like graphical presentation of the nodes, storing the results in data memory, and changing the representation of the states based on an input event from the user; and

 an output data device that updates the status state of selection of each node effected by the input event by operation of the process and stores the change in data memory.

2. The apparatus recited in Claim 1 wherein the processing mechanism comprises a processing system.

3. The apparatus recited in Claim 1 wherein the processing mechanism comprises software.

4. The apparatus recited in Claim 1 wherein the tree-like structure comprises a hierarchical ordering of the objects.

5. The apparatus recited in Claim 4 wherein the input data memory stores an identification of each node that is independent of its position in the hierarchy.

6. The apparatus recited in Claim 1 wherein the status state of the selection or exclusion of the node is represented by graphical icons.

7. The apparatus recited in Claim 6 wherein the processing mechanism changes the status state of nodes in a tree-like graphical presentation of the nodes, stores the results in data memory, and changes the graphical icon representation of the states based on the input event from the user.

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8. The apparatus recited in Claim 6 wherein the output data device changes the icon graphically representing the status of selection or exclusion of each node so affected.

9. The apparatus recited in Claim 1 wherein the processing mechanism processes the data by:

evaluating a current state of selection or exclusion of a node that is subject to an event, and, based on the state, retaining or changing the state in a designated sequence based upon receipt of the input event;

5 recursively evaluating the current state of selection or exclusion of each child node, if any, of the node that is subject to the event, and, based on the state of selection, retaining or changing the state in a designated sequence based upon the result of the processing of the node subject to the input event; and

10 recursively evaluating the current state of selection or exclusion of each parent node, if any, of the node subject to the event, and determining whether all child nodes of the parent constitute a complete partition of the object represented by the parent node, and based on the results, and retaining or changing the status state of the icon in a designated sequence.

10. The apparatus recited in Claim 9 wherein the processing mechanism further processes the data by:

updating a display of the state resulting from such processing that corresponds to the node

5 updating the display of the state resulting from such processing that corresponds to the child node; and

updating the display of the state resulting from such processing that corresponds to the parent node.

11. The apparatus recited in Claim 6 wherein the processing mechanism and software processes the data by:

evaluating a current state of selection or exclusion of a node that is subject to an event, and, based on the state, retaining or changing the state in a designated sequence based upon receipt of the input event, and updating a display of the graphical icon representing the state resulting from such processing that corresponds to the node;

recursively evaluating the current state of selection or exclusion of each child node, if any, of the node that is subject to the event, and, based on the state of selection, retaining or changing the state in a designated sequence based upon the result of the processing of the node subject to the input event and updating the display of the graphical icon representing the state resulting from such processing that corresponds to the child node; and

10 recursively evaluating the current state of selection or exclusion of each parent node, if any, of the node subject to the event, and determining whether all child nodes of the parent constitute a complete partition of the object represented by the parent node, and based on the results, retaining or changing the status state of the icon in a designated sequence and updating the display of the graphical icon representing the state resulting from such processing that corresponds to the parent node.

12. The apparatus recited in Claim 11 wherein the processing mechanism further processes the data by:

updating a display of the graphical icon representing the state resulting from such processing that corresponds to the node

5 updating the display of the graphical icon representing the state resulting from such processing that corresponds to the child node; and

updating the display of the graphical icon representing the state resulting from such processing that corresponds to the parent node.

13. A method for selecting or excluding and identifying the manner of selecting and excluding complex sets of objects contained in a set of such objects, and for illustrating same in a tree-like graphical form, comprising the steps of:

storing a mapping from objects in a set of objects from which a complex set is to be selected to a set of nodes organized in a tree-like structure that represents an ordering of the objects;

5 storing an identification of each node independent of its position in the order, identifying each node in relation to other nodes in the hierarchy by storing references, if any, to a parent node, one or more sibling nodes and one or more child nodes, along with an indication of whether the representation constitutes a full or partial partition of the set that is represented, and storing a status state of the selection or exclusion of each node;

10 changing the status state of nodes in a presentation of the nodes, storing the results in data memory, and changing the representation of the states based on an input event from the user; and

15 updating the status state of selection of each node effected by the input event by operation of the process and storing the change.

14. The method recited in Claim 13 wherein the tree-like structure comprises a hierarchical ordering of the objects.

15. The method recited in Claim 14 wherein an identification of each node that is independent of its position in the hierarchy is stored.

16. The method recited in Claim 13 wherein the status state of the selection or exclusion of the node is represented by graphical icons.

17. The method recited in Claim 16 wherein the status state of nodes is stored in a tree-like graphical presentation of the nodes, the results are stored, and the step of updating the status state changes a graphical icon representation of the states based on the input event from the user.

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18. The method recited in Claim 16 wherein the step of updating the status state changes the icon graphically representing the status of selection or exclusion of each node so affected. method recited in Claim 16 wherein the step of updating the status state changes the icon graphically representing the status of selection or exclusion of each node so affected.

19. The method recited in Claim 13 which further comprises the steps of:
evaluating a current state of selection or exclusion of a node that is subject to an event, and, based on the state, retaining or changing the state in a designated sequence based upon receipt of the input event;

5 recursively evaluating the current state of selection or exclusion of each child node, if any, of the node that is subject to the event, and, based on the state of selection, retaining or changing the state in a designated sequence based upon the result of the processing of the node subject to the input event; and

10 recursively evaluating the current state of selection or exclusion of each parent node, if any, of the node subject to the event, and determining whether all child nodes of the parent constitute a complete partition of the object represented by the parent node, and based on the results, and retaining or changing the status state of the icon in a designated sequence.

20. The method recited in Claim 16 which further comprises the steps of:
evaluating a current state of selection or exclusion of a node that is subject to an event, and, based on the state, retaining or changing the state in a designated sequence based upon receipt of the input event, and updating a display of the graphical icon representing the state resulting from such processing that corresponds to the node;

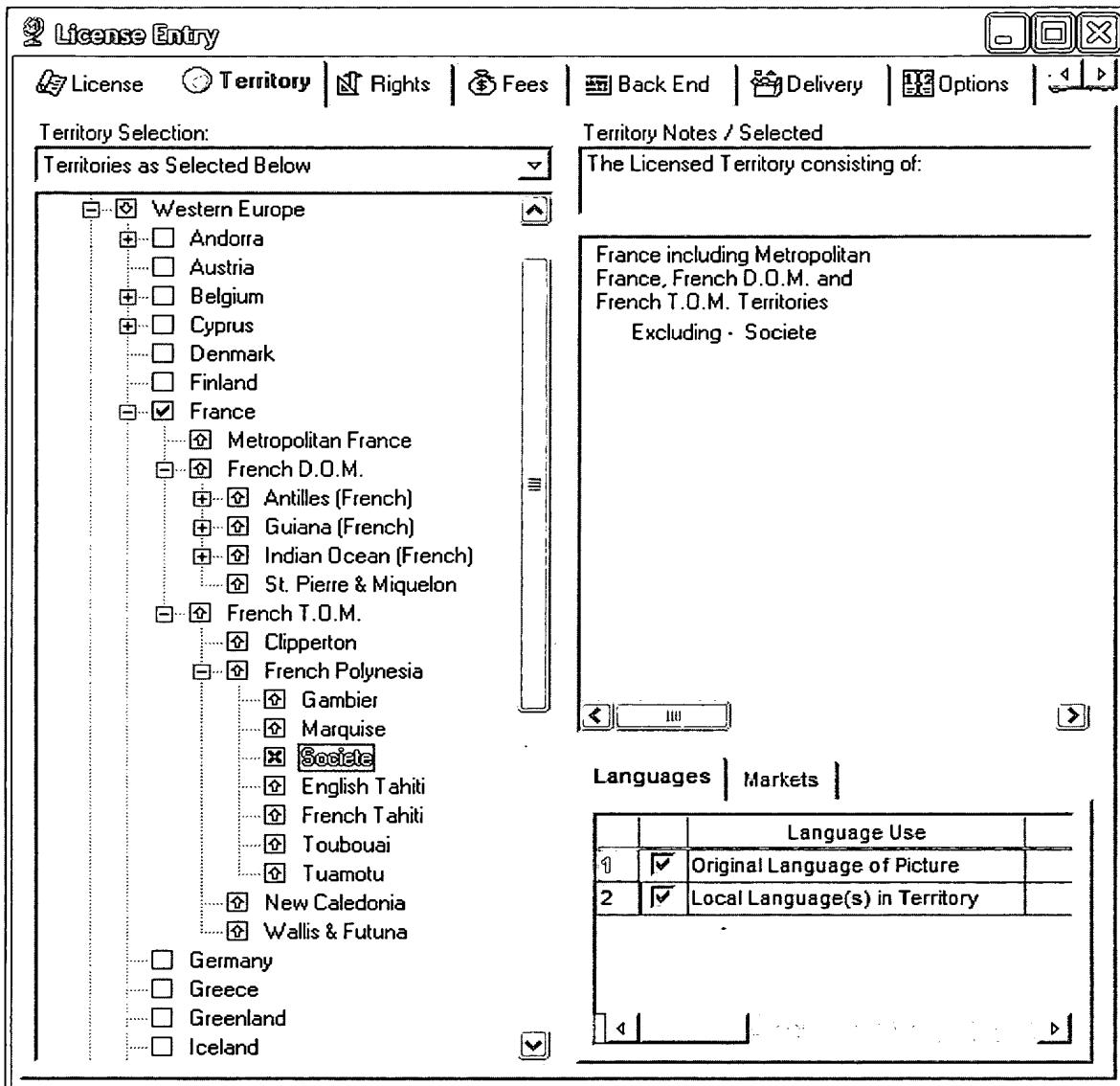
recursively evaluating the current state of selection or exclusion of each child node, if any, of the node that is subject to the event, and, based on the state of selection, retaining or changing the state in a designated sequence based upon the result of the processing of the node subject to the input event and updating the display of the graphical icon representing the state resulting from such processing that corresponds to the child node; and

10 recursively evaluating the current state of selection or exclusion of each parent node, if any, of the node subject to the event, and determining whether all child nodes of the parent constitute a complete partition of the object represented by the parent node, and based on the results, retaining or changing the status state of the icon in a designated sequence and updating
15 the display of the graphical icon representing the state resulting from such processing that corresponds to the parent node.

EVIDENCE APPENDIX

RELATED PROCEEDINGS APPENDIX

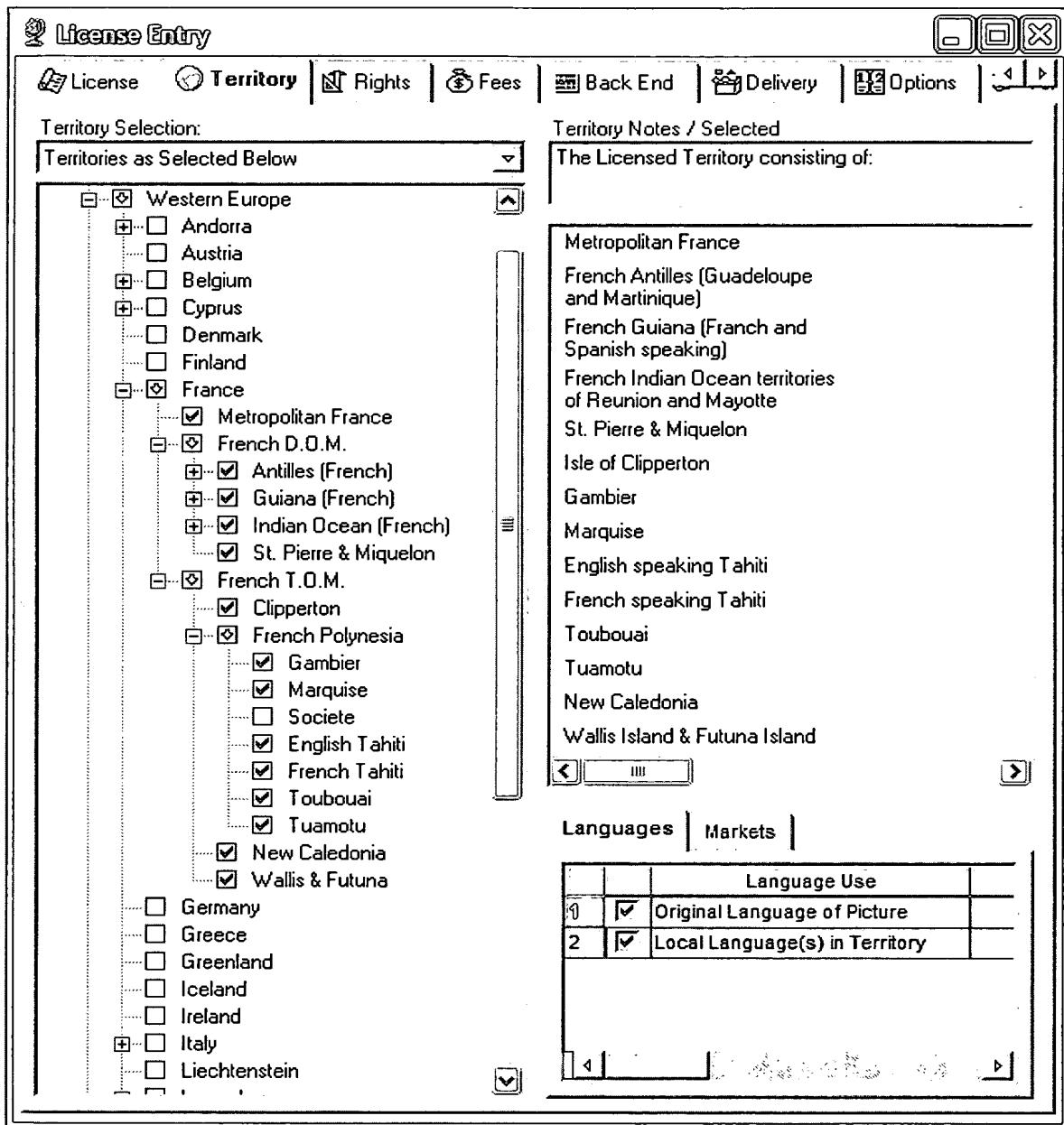
Illustration A
How the present invention operates



this illustration shows the selection: *France excluding Societe*. This requires only two clicks – one on France, one on Societe. Each icon displays the status of selection at each point.

Ching et al. *cannot* do this.

Illustration B
How the Ching et al. invention operates



Here is what Ching et al. would need to do to select *France excluding Societe*.

First, the Ching et al. procedure requires a select/deselect at each node requiring 15 clicks not 2.

Second, the Ching et al. selection does *not* show the actual selected set “France excluding Societe.”. Instead, Ching et al. requires a list of each component selected.